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MONTANA WEATHER AND CROP SUMMARY

U.S. DEPARTMENT OF AGRICULTURE  
Statistical Reporting Service

Cooperating with  
AGRICULTURAL EXTENSION SERVICE

Montana State University

U.S. DEPARTMENT OF COMMERCE  
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WEATHER SUMMARY, 6-MONTHS, APRIL-SEPTEMBER, 1969

TEMPERATURE: The outstanding temperature feature of the 1969 growing season was that cool weather persisted over the entire State from early in June until mid-July at which time temperatures warmed and continued warm the remainder of the season. Above normal temperatures were experienced during April and much of May. Cool air became entrenched over the State early in June and remained for six weeks with the greatest departure from normal occurring over the south central and eastern divisions. Temperatures reached very cold levels on June 12th and 13th. East of the Continental Divide, only a few low elevation stations escaped a freeze the morning of the 13th; at Helena the 30° minimum was the coldest June temperature on record. A temperature of 14° was recorded near Utica the same morning.

Temperatures warmed the last two weeks of July and remained warm through August and September. The hottest weather of the summer occurred during the third week in August. The 105° reading at Helena on August 24th was the highest temperature ever recorded in the Capital City. A reading of 111° was observed at Loma the same day.

PRECIPITATION: Near or more than normal precipitation occurred for the six-month period, except for slightly less than normal in the north central and central divisions. Southwestern Montana received the largest amounts with ample moisture occurring throughout the growing season. However, elsewhere in the State precipitation was not well distributed during the season. April, May and early June were dry except for heavy snow and a severe blizzard in late April over eastern Montana.

A record snowfall occurred on June 12th along the east slopes of the Rockies from Glacier National Park southeastward to the Upper Yellowstone Valley. The second half of June and the first two weeks of July were very wet. Substantial rains were widespread with snow occurring several times at high elevations near Yellowstone National Park. Rainfall decreased drastically the second two weeks of July as warm dry air spread over the State. Except in Southwestern Montana, conditions remained dry the remainder of the growing season. Especially dry were Northern and Eastern Montana where many stations reported no precipitation at all during August.

SEVERE STORMS: A spring blizzard of unparalleled intensity in recent history developed over southeastern Montana on April 25th and continued the 26th. Heavy snow accompanied by strong winds caused more than \$500,000 damage to utility lines over a 12-county area, and caused the loss of more than 88,000 sheep and 8,600 cattle. The heaviest losses occurred in an area about 100 miles wide extending from the west end of Fort Peck Reservoir southeastward through Powder River County. Record cold temperatures on June 13th, following a record June snowfall of three to five inches, damaged crops throughout Central and South-eastern Montana.

There was a noticeable decrease in summer thunderstorm activity this year. However, hail frequently accompanied the thunderstorms that did occur over the plains. Thunderstorms and hail caused considerable damage to crops during the first and last weeks of July. The areas surrounding Havre and Wibaux appear to have been especially hard hit this year by large hail.

CROP AND LIVESTOCK SUMMARY, 6 MONTHS, APRIL-SEPTEMBER, 1969

SOIL MOISTURE SHORT DURING MOST OF GROWING SEASON: On April 1, only a few snowdrifts remained to remind us of the fierce 1968-69 winter. The spring thaw was fairly slow and orderly with only local flooding. Much of the water soaked into the ground, but there was enough runoff to fill nearly all stock-water reservoirs. The large amount of snow received, assured a good supply of irrigation water. On April 25-26, a spring blizzard with high winds and drifting snow occurred in the southeastern district. Deep drifts were piled up, and many miles of telephone lines went down. Sheep and cattle losses were substantial.

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Light to heavy frost occurred throughout Montana on June 12-13. Moisture in the form of snow, hail and rain accompanied the freezing weather. Beneficial amounts were received in western and south central Montana. Topsoil moisture was short in all other areas, with critical shortages in the north central, northeast and central districts. At the middle of June, crops in nearly all areas of the State were showing stress from lack of moisture. Montana received a slow widespread general rain the last week of June, which replenished the very short topsoil moisture and improved growing conditions. Hail damage occurred in Judith Basin County and a few other areas in the north central district where some farmers were completely hailed out. After the middle of August, irrigation water became short in many areas. During the first week of September, topsoil moisture was short throughout Montana.

WINTER WHEAT DAMAGED BY FROST IN JUNE: On April 1, winter wheat began to green in many areas, but there were a few isolated fields where it was still dormant. The crop made normal growth and there was little winter-kill or wind damage. However, some fields eroded more than normal. Cutworm damage required some reseeding. Light to heavy frost on June 12, caused some damage to the winter wheat crop in the blossom stage. Wheat streak mosaic was reported in many areas with the heaviest damage in Yellowstone County. Heading of the winter wheat crop began about the first of June. Some fields that frosted in June were cut for hay. Winter wheat harvest began on the first of July. Harvest lagged somewhat because of uneven ripening. High winds in August caused shattering in many areas of the State. Yields were better than expected and generally good. Test weight and protein content were above past year in most of the State. Winter wheat harvest was completed during the first week of September.

FIELD TILLAGE AND SPRING PLANTING: Fieldwork started during the first week of April in the southeast portion and a few other favored areas. Progress was slow because many fields were still too wet to work. The spring season was generally 10 days to 2 weeks later than normal. Planting of all spring crops was virtually completed the first week of June. Light to heavy frost on June 12-13 caused some damage to hay, winter wheat, corn, beans and potatoes.

Cutting of alfalfa hay started the first week of June in northwestern Montana about 2 weeks earlier than usual. Light alfalfa weevil damage was reported throughout the State. Wild hay harvest began the second week of June in the northwestern, south central, and southeastern districts. In the eastern part of the State, haying was hampered by numerous showers. Wild hay harvest was virtually complete by August 15. Harvest of oats and barley started the second week of August and spring wheat shortly thereafter. Harvest progressed under favorable conditions and was completed the third week of September. Spring wheat protein content exceeded the level for the previous year.

LIVESTOCK AND HAY SITUATION GENERALLY GOOD: Many winter ranges were opened up for grazing by the first week of April, but still 90 percent of the State's livestock was receiving supplemental feed. Ranchers began moving range livestock to summer ranges in late April. Calving was completed in early May. Lambing was completed during the second week of May. Sheep shearing was completed during the first week of June. Calving losses were higher than normal in the western third of the State, but elsewhere, losses were near normal. A snow-storm on April 25-26 caused considerable losses of newborn calves, lambs, and recently shorn sheep. Hay supplies were short, and most of the hay that was selling was imported from distant areas. Movement of range livestock to summer ranges was completed by the middle of June. Range feed on summer pastures was generally adequate but grasses became dry and brittle earlier than usual. Stockwater was generally adequate but many developed springs and stockponds dried up.

Movement of range livestock from summer ranges began the first week of September. By the end of the month 35 percent of the sheep and lambs had been moved from summer ranges. Prospective supplies of hay and other forage for the winter were adequate. Winter ranges and pastures are in fair to good condition.

WINTER WHEAT SEEDING SLOW: Winter wheat seeding started the second week of September--nearly two weeks behind average. Topsoil moisture was short in all areas of the State. Most winter wheat growers were waiting for rain to provide moisture for germination. Thirty-five percent of the 1970 crop was seeded by the end of the month compared with the average of 75 percent. Germination and growth of the crop was only fair, Statewide. Growth of winter wheat was below normal.



## PRECIPITATION: 6-Month Total, April - September 1969, and Normal

| 6-Month Precipitation  |                   |        | 6-Month Precipitation |                   |        |
|------------------------|-------------------|--------|-----------------------|-------------------|--------|
| STATION                | April - September |        | STATION               | April - September |        |
|                        | 1969              | Normal |                       | 1969              | Normal |
| WESTERN DIVISON        |                   |        |                       |                   |        |
| Alberton               | 7.68              |        | Missoula WBAS         | 6.98              | 7.34   |
| Big Arm                | 6.95              |        | Olney                 | 9.72              |        |
| Big Fork 13S           | 11.00             |        | Ovando                | 9.01              |        |
| Creston                | 10.12             |        | Paradise              | 6.63              |        |
| Darby                  | 6.03              | 7.45   | Philipsburg           | 8.34              | 9.74   |
| Deer Lodge 3W          | 3.86              |        | Pleasant Valley       | 7.67              | 7.99   |
| Drummond               | 9.40              | 7.62*  | Polson Kerr Dam       | 7.94              |        |
| E. Anaconda            | 5.95              | 8.43   | Potomac               | 7.26              |        |
| Elliston               | 10.56             |        | St. Ignatius          | 9.03              | 9.31   |
| Essex                  | 13.47             |        | St. Regis             | 4.88              |        |
| Eureka                 | 9.72              |        | Seeley Lake           | 9.76              |        |
| Fortine 1N             | 10.41             | 9.19   | Stevensville          | 9.42              | 6.57   |
| Hamilton               | 6.07              | 6.67   | Sula 1NE              | 6.99              |        |
| Heron 2NW              | 9.82              | 10.24  | Summit                | 10.63             |        |
| Hungry Horse Dam       | 12.94             |        | Superior              | 5.14              | 7.57   |
| Kalispell WBAS         | 7.49              | 8.09   | Swan Lake             | 10.85             |        |
| Kila                   | 7.09              |        | Thompson Falls        | 7.32              | 8.18   |
| Libby 1NE              | 7.43              | 6.70   | Trout Creek           | 7.96              |        |
| Libby 32SSE            | 8.73              |        | Troy                  | 8.48              |        |
| Libby Dam              | 8.80              |        | Troy 18N              | 14.98             |        |
| Lindbergh Lake         | 10.88             |        | West Mont. Br. Sta.   | 7.20              |        |
| Lolo Hot Spgs. 2NE     | 8.98              |        | West Glacier          | 11.75             | 11.74  |
| Missoula 3NE           | 8.63              | 7.49   |                       |                   |        |
| SOUTHWESTERN DIVISION  |                   |        |                       |                   |        |
| Alder 17S              | 12.79             |        | Jackson               | 8.33              |        |
| Belgrade FAA AP        | 12.83             | 9.23*  | Lakeview              | 6.08              |        |
| Boulder St. School     | 7.71              |        | Lima                  | 10.44             | 7.78   |
| Bozeman MSU            | 15.86             | 10.90  | Norris 3ENE           | 15.06             |        |
| Bozeman 6W             | 14.61             |        | Norris Madison PH     | 15.61             | 11.87  |
| Bozeman 12NE           | 16.62             |        | Pony                  | 12.69             |        |
| Butte FAA AP           | 12.80             | 8.33   | Trident               | 10.51             |        |
| Dillon FAA AP          | 8.78              | 6.95*  | Twin Bridges          | 7.77              |        |
| Dillon WMC             | 7.60              | 8.12   | Virginia City         | 14.09             | 9.53   |
| Divide 2NW             | 8.99              |        | W. Yellowstone        | 6.51              | 9.63   |
| Gallatin Gtway 26SSW   | 13.09             |        | Whitehall 7E          | 8.73              | 7.52*  |
| Glen 4N                | 7.17              |        | Wisdom                | 7.30              |        |
| Hebgen Dam             | 11.35             | 11.31  |                       |                   |        |
| NORTH CENTRAL DIVISION |                   |        |                       |                   |        |
| Babb                   | 9.62              | 13.53  | Goldbutte 7N          | 6.79              |        |
| Big Sandy              | 6.42              | 9.24   | Harlem                | 6.84              | 8.95   |
| Blackleaf              | 5.79              |        | Havre WBAS            | 5.53              | 8.61   |
| Brady                  | 6.60              |        | Iliad                 | 6.56              |        |
| Browning               | 8.68              | 10.17  | Joplin 1N             | 5.16              |        |
| Chester                | 4.31              |        | Loma 1WNW             | 6.69              |        |
| Chester 26WNW          | 7.07              |        | Lonesome Lake         | 6.21              |        |
| Chinook                | 7.33              | 9.25   | Loring 10N            | 7.31              |        |
| Choteau                | 8.35              | 9.34   | Malta                 | 7.91              | 8.84   |
| Cleveland 5ENE         | 10.64             |        | Malta 35S             | 8.73              |        |
| Conrad                 | 6.00              | 9.49   | Many Glacier          | 14.91             |        |
| Cut Bank FAA AP        | 7.33              | 9.12   | Saco 1NNW             | 7.27              |        |
| Del Bonita             | 11.37             |        | Shelby AP             | 6.54              |        |
| Dunkirk 14NNE          | 4.45              | 8.88   | Shonkin 7S            | 15.33             |        |
| Dupuyer 7WNW           | 8.04              |        | Simpson               | 4.75              | 8.16   |
| Fairfield              | 8.19              | 9.32   | Sweetgrass            | 6.06              |        |
| Forks 4NNE             | 9.22              |        | Telegraph Creek       | 8.30              | 8.51   |
| Ft. Assinniboine       | 5.56              | 8.56   | Tiber Dam             | 3.91              |        |
| Ft. Benton             | 8.05              | 10.01* | Valier                | 6.19              | 10.26  |
| Geraldine              | 8.42              |        | Zortman               | 17.04             |        |
| CENTRAL DIVISION       |                   |        |                       |                   |        |
| Augusta                | 8.18              | 10.07  | Martinsdale 3NNW      | 7.65              | 10.14* |
| Austin 1W              | 8.99              |        | Melstone              | 11.50             | 8.60   |
| Barber                 | 8.16              |        | Moccasin Exp. Sta.    | 10.01             | 10.64  |
| Canyon Ferry           | 8.00              |        | Neihart 8NNW          | 13.24             |        |
| Cascade 5S             | 10.55             | 10.45  | Raynesford            | 7.40              |        |
| Cascade 20SSE          | 10.81             |        | Rogers Pass 6NNE      | 11.18             |        |
| Denton 1NNE            | 8.53              |        | Roundup               | 8.89              | 8.22   |
| Flatwillow 4ENE        | 8.71              | 9.53   | Roy 8NE               | 9.04              |        |
| Gibson Dam             | 9.14              | 12.01  | Roy 24NE              | 7.73              |        |

\* Estimated Normal

## PRECIPITATION: 6-Month Total, April - September 1969, and Normal

| STATION                         | 6-Month Precipitation |        | STATION               | 6-Month Precipitation |        |
|---------------------------------|-----------------------|--------|-----------------------|-----------------------|--------|
|                                 | April - September     |        |                       | April - September     |        |
|                                 | 1969                  | Normal |                       | 1969                  | Normal |
| <u>CENTRAL DIVISION (Cont.)</u> |                       |        |                       |                       |        |
| Grass Range                     | 13.31                 |        | Ryegate 18NNW         | 6.12                  |        |
| Grass Range 12NE                | 9.75                  |        | Stanford 1WNW         | 10.12                 | 11.19  |
| Great Falls WBAS                | 8.12                  | 9.72   | Sun River 5SW         | 9.09                  |        |
| Harlowton                       | 7.55                  |        | Toston 3SW            | 8.76                  |        |
| Helena WBAS                     | 7.71                  | 7.49   | Townsend              | 7.42                  |        |
| Holter Dam                      | 11.69                 | 9.07   | Utica 11 WSW          | 8.62                  |        |
| Judith Gap 13E.                 | 7.20                  |        | White Sul. Spgs.      | 7.71                  | 11.19  |
| Lennep 6WSW                     | 6.68                  |        | White Sul. Spgs. 24NW | 9.03                  |        |
| Lewistown FAA AP                | 8.55                  | 12.02  | Winifred              | 6.90                  | 9.15   |
| <u>SOUTH CENTRAL DIVISION</u>   |                       |        |                       |                       |        |
| Belfry 4SSW                     | 7.46                  |        | Huntley Exp. Sta.     | 11.60                 | 7.96   |
| Big Timber                      | 12.23                 | 10.06  | Hysham                | 9.30                  |        |
| Billings WP                     | 10.64                 | 9.43   | Joliet                | 11.06                 |        |
| Billings WBAS                   | 10.47                 | 8.73   | Kirby 1S              | 12.72                 |        |
| Bridger                         | 8.75                  |        | Livingston            | 11.76                 | 9.09   |
| Broadview                       | 10.20                 |        | Livingston FAA AP     | 13.81                 | 10.23* |
| Busby                           | 11.60                 | 8.81   | Melville 4W           | 9.30                  |        |
| Columbus                        | 8.73                  | 9.51   | Mystic Lake           | 14.62                 | 15.25  |
| Cooke City                      | 11.95                 |        | Rapleje 4S            | 8.07                  | 9.25   |
| Crow Agency                     | 11.89                 | 9.32   | Red Lodge             | 13.02                 | 13.39  |
| Custer                          | 12.90                 |        | Wilsall 8ENE          | 14.49                 |        |
| Gardiner                        | 6.35                  |        | Wyola                 | 12.17                 | 9.04*  |
| Hardin                          | 10.72                 |        | Yellowtail Dam        | 14.61                 |        |
| <u>NORTHEASTERN DIVISION</u>    |                       |        |                       |                       |        |
| Bloomfield 6E                   | 8.29                  |        | Mosby 2ENE            | 11.35                 |        |
| Bredette                        | 10.28                 |        | Mosby 18N             | 9.38                  |        |
| Brockway 3WSW                   | 12.16                 |        | Nohly 3WNW            | 12.69                 |        |
| Circle                          | 14.00                 | 9.28*  | Opheim 10N            | 11.06                 |        |
| Cohagen                         | 11.49                 |        | Opheim 12SSE          | 10.92                 |        |
| Culbertson                      | 11.22                 | 10.26  | Poplar                | 10.53                 | 10.21  |
| Fort Peck                       | 10.87                 |        | Raymond Border Sta.   | 9.24                  |        |
| Glasgow WBAS                    | 7.24                  | 9.26   | Redstone              | 8.67                  |        |
| Glendive                        | 11.71                 | 9.91   | Richey                | 15.07                 |        |
| Hinsdale                        | 9.07                  |        | Savage                | 12.52                 | 10.82  |
| Jordan                          | 11.81                 |        | Scobey                | 9.86                  |        |
| Jordan 22E                      | 11.00                 | 7.81   | Sidney                | 12.87                 | 10.72* |
| Lambert                         | 14.77                 |        | Vida                  | 14.41                 | 10.81  |
| Lustre 4NNW                     | 10.31                 | 9.45   | Westby                | 10.65                 |        |
| Medicine Lake 3SE               | 10.67                 | 10.35  | Wolf Point 4ESE       | 10.25                 |        |
| <u>SOUTHEASTERN DIVISION</u>    |                       |        |                       |                       |        |
| Albion 1N                       | 10.53                 |        | Miles City FAA AP     | 11.06                 | 9.04   |
| Biddle 8SW                      | 10.16                 |        | Mizpah 4NNW           | 12.29                 |        |
| Boyes                           | 10.22                 |        | Moorhead 9NE          | 11.69                 |        |
| Brandenberg                     | 10.96                 |        | Otter 9SSW            | 13.22                 |        |
| Broadus                         | 8.83                  | 10.10* | Plevna                | 11.25                 | 9.70   |
| Carlyle 12NW                    | 10.81                 |        | Powderville 8NNE      | 9.53                  |        |
| Colstrip                        | 13.31                 | 10.48  | Ridgway 1S            | 8.39                  |        |
| Ekalaka                         | 11.09                 | 10.32  | Rock Springs          | 8.35                  |        |
| Forsyth                         | 12.10                 |        | Sonnett 2WNW          | 11.95                 |        |
| Ingomar 11NE                    | 9.37                  |        | Terry                 | 7.96                  |        |
| Mildred                         | 11.20                 | 9.56   | Terry 21NNW           | 12.83                 |        |
| Miles City                      | 9.87                  |        | Wibaux 2E             | 10.57                 |        |

\* Estimated Normal

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